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TABLE 1. EXPECTED TOTAL ERROR BY SIZE OF AREA

Size of percentage to be estimated	Size of expected total error[1] in percentage points for an area with a population of —					
	2,500		10,000		50,000	
	Complete census	25% sample	Complete census	25% sample	Complete census	25% sample
0.5	0.3	0.4	0.1	0.2	0.1	0.1
2.0	0.6	0.8	0.3	0.4	0.2	0.2
5.0	0.9	1.2	0.5	0.7	0.3	0.4
20.0	2.0	2.5	1.4	1.6	1.2	1.3
50.0	3.6	4.1	3.2	3.3	3.0	3.1

[1] Assumes a response bias of 6% and response variance equal to the sampling variance of a 25% household sample. The total error of the 25% sample is the square root of the sum of the variances plus the square of the bias.

Source: The Accuracy of Census Statistics With and Without Sampling, U.S. Bureau of the Census, Technical Paper No. 2, Washington, D.C., 1960, p. 4.

and to perhaps reduce the non-sampling errors to such an extent that it compensates for the introduction of sampling error. A 100% enumeration does not necessarily produce statistics much more accurate than those based on a 25% sample of housing units when we consider the total error and sampling error is small relative to the total error. Table 1 illustrates this point.

The 1970 Census Sample

Rationale for mail-out/mail-back procedure.—The procedures involved with collecting data on a sample basis were related to the decision to make major use of the mail in the 1970 census. There were reasons other than cost that entered into the decision for a mail census. One was to improve coverage. An independent pre-listing of addresses verified by the Post Office was used to mail out census questionnaires for 60% of the population of the United States of America. Occupants were requested to return the questionnaires by mail. Enumerators were then required to account for each address within their enumeration district, including a personal or telephone follow-up of questionnaires not returned by mail. Enumerators could also add or delete addresses which were either missed or incorrectly listed. It was also anticipated that the use of the mail to deliver questionnaires might permit the Census Bureau to contact those households where the door would not be opened to enumerators. Further, since many of these lists were computer generated, the computer designation of the sample housing units also insured better control in the identification of sample units.

More important, however, self-enumeration could improve the quality of census data by reducing the participation of the enumerator, a possible source of bias. The evaluations of the 1950, 1960, and 1970 censuses have shown that enumerators contributed to the error in the census, particularly for small area statistics. The 1960 procedure reduced the effect of enumerator variance on the data to about one-third to one-fourth of the 1950 levels.[4] In some mail areas an enumerator was responsible for a whole enumeration district. In such areas the estimates of the 1970 enumerator variability increased over 1960 for some items and decreased for others.[5]

Rationale for housing unit sampling rather than person sampling.—In the 1970 Census of Population and Housing the sampling unit for the population not living in institutions or group quarters was the housing unit. All persons living in a sample housing unit were to be included in the sample. Information was collected from a 20% sample of housing units using two different questionnaires: one for 15% and another for 5% of the population. The 1960 Census of Population and Housing had collected information from a 25% sample of housing units. A budget decision was the reason for the smaller sample used in 1970. Sampling housing units facilitates the tabulation of household and family statistics. A 20% sample that includes all persons who live in a sample housing unit will have a larger sampling error for statistics of persons than if one were to choose a 20% sample of persons. The higher sampling variability is due to the clustering effect; that is, persons who live in the same housing unit tend to be more alike in certain characteristics (e.g., race) than those who live in different housing units.

Another factor which contributed to using the housing unit as a sampling unit was that it is easier to control the designation of sampling units if an entire

[4] Conrad Taueber and Morris H. Hansen, "Self-Enumeration as a Census Method," *Demography*, 1966, Vol. 3, No. 1, p. 294.

[5] Benjamin J. Tepping and Barbara A. Bailar, "Enumerator Variance in the 1970 Census," *Proceedings of the Social Statistics Section*, American Statistical Association, 1973, pp. 160-169.

Some Uses of Sampling in the 1970 Census of Population and Housing in the United States of America[1]

JOSEPH W. DUNCAN
Deputy Associate Director for Statistical Policy, Office of Management and Budget
MARIA ELENA GONZALEZ
Office of Management and Budget
PETER A. BOUNPANE
Bureau of the Census, Department of Commerce

The censuses which will be taken by all countries of the Americas in and around 1980 should benefit from the experience that the various countries have had in taking censuses in the past. For this purpose we analyze here the experience of census-taking in the United States of America (U.S.A.), focusing specifically on some uses of sampling in the 1970 Census of Population and Housing.

After a short background on the introduction of sampling techniques to the decennial censuses, we present the procedures used in conjunction with collection of data on a sample basis in 1970. We follow with a description of additional uses of sampling in 1970, such as quality control, evaluation, and collection of supplementary information.

Background

Though the United States of America has taken a census every 10 years since 1790, the introduction of sample operations is relatively recent. The 1940 census was the first to make extensive use of modern sampling methods, while the 1950 census was the first to collect data of primary interest on a sample basis. The 1950 Census of Population and Housing collected sample information from a 20% sample of persons. In the 1960 Census of Population and Housing, the use of sampling was further extended so that only a few items were collected on a 100% basis while most of the information was collected from a 25% sample of households. The switch in 1960 to a sample of housing units was to provide better household and family statistics.[2] A sample of housing units, however, is less efficient than a sample of persons for data on persons. Estimates given in *The Accuracy of Census Statistics With and Without Sampling*[3] indicate that a 25% sample of housing units would have sampling errors for persons data of about the same magnitude as a 20% sample of persons. Operationally, it is easier to control a sample of housing units than a sample of persons since the interviewer has less leeway in designating sample housing units than in identifying sample persons.

The expanded use of sampling in the censuses of the United States of America was prompted not only by cost and administrative reasons, but also by the realization that on an overall basis, sample statistics could be as accurate as statistics collected on a 100% basis. An additional consideration in using sampling is to diminish the burden on the respondents, by asking more detailed questions of a relatively small proportion of the population.

The accuracy of statistics depends on both sampling error and non-sampling error, including response and processing errors. Of course, there is no sampling error on data collected on a 100% basis, but both a complete census and a sample are subject to non-sampling errors. Since the sample is smaller, it is possible to employ more resources to control non-sampling errors

[1] Based on a paper presented at the XII Session of Committee on Improvement of National Statistics (COINS) of the Inter-American Statistical Institute, Round Table No. 1, at Lima, Peru, November 11-18, 1975. A Spanish translation of this paper is available from the Inter-American Statistical Institute. The title in Spanish and document number are as follows: *Algunos Usos del Muestreo en el Censo de Poblacion y Habitacion de 1970 en los Estados Unidos de America* (6974 Esp.-10/3/75-150).

[2] *Sampling Applications in Censuses of Population and Housing*, U.S. Bureau of the Census, Technical Paper No. 13, Washington, D.C., 1965, p. 10.

[3] U.S. Bureau of the Census, Technical Paper No. 2, Washington, D.C., 1960, p. 2.

housing unit is either included or excluded from the sample, especially with the increased use of the mail census. With self-response it would not have been feasible to request respondents to subsample household members.

Sampling procedures for mail areas.—Between May 1969 and January 1970, approximately 32 million residential addresses (approximately 49% of all addresses) were compiled on computer tape from a commercial mailing list of addresses receiving city-type postal delivery. By a computer operation, these addresses were assigned to a geographic area, split into appropriate enumeration districts, and sequentially numbered within enumeration district. In addition, each enumeration district was sampled by the computer. A systematic one-fifth of the serial numbers were designated as in sample. One-fourth of the sample lines were systematically designated as the 5% sample and the balance as the 15% sample. The sampling was continuous across enumeration districts within a certain geographic area. Address labels were prepared from these computer lists of addresses and directly affixed to the appropriate kind of questionnaire.

Since the entire sampling operation was by computer, there were no field checks on the sample designation. Later evaluation showed only trivial errors in the computer sampling and affixing of address labels. There was one area of potential sample bias under this scheme. In some multi-unit buildings, the apartments are not clearly defined. Thus, the postman would not directly deliver the appropriate questionnaire to each apartment. Often, questionnaires were left in a common hallway with the residents picking up a questionnaire as they wished, usually in a non-random fashion. Post-censal studies showed such biases did occur.

The computer-generated lists were verified by various post office checks. Certain addresses were deleted and certain addresses were added. Added addresses were written in by hand to the address register (a listing of the addresses in an enumeration district). Sample patterns had been extended to the blank lines in the address register; hence, added addresses were automatically appropriately sampled by noting on which line in the register the address fell.

The above process did not cover all addresses in a metropolitan area. Address lists for the balance of the areas were produced by using field employees to produce the listing in the Fall of 1969 and Spring of 1970. These areas were called prelist areas and contained about 12% of all addresses.

The land area was split into enumeration districts. For each enumeration district, a lister was supplied with a map and a blank listing book (address register). Sample designations had already been preprinted on the appropriate lines (again, a systematic one-fifth of lines in sample with the appropriate subsampling to the 15% and 5% samples). There were different random starts for each enumeration district. In advance of the census date, the lister canvassed the enumeration district in a prescribed manner and listed the mailing address of each unit (occupied or vacant) on the next available line. Each unit that fell on a sample line was in the sample. Appropriate questionnaires were hand addressed. Since the lister was not responsible for enumerating the census, it was not expected the lister would bias the order in which units were listed; hence, there were no special checks of the sample in prelist areas.

Sampling procedures for non-mail areas.—Unlike mail areas, there was no two-stage operation in non-mail areas. Rather, the list/sample operation and the enumeration operation were done in one step. Non-mail areas contained about 39% of all addresses. As in prelist areas, enumerators were given a map of the enumeration district and a blank address register with appropriately marked sample lines.

The enumeration district was canvassed in a prescribed manner (with some latitude in very rural areas) and units were listed and sampled as the enumerator came to them. In addition, the enumerator enumerated the unit. Since the enumerator had control of which units were in the sample, various checks were developed.

First, after a short while, the crew leader checked to see that the enumerator was following the prescribed listing order. Release and retraining were at the crew leader's discretion. At the completion of enumeration of the enumeration district, the crew leader checked to see that the number of sample questionnaires was about 20% of the total. The tolerances were narrow.

There was also a final office check. Each enumeration district was checked to see if about 20% of the total persons (not questionnaires) were in the sample. Failures were reported daily to Washington. No action was taken if failures were in scattered and isolated enumeration districts. Where failures clustered, the enumeration districts were resampled and reenumerated. Approximately 850 enumeration districts in 220 counties out of a total of about 110,000 enumeration districts in 2,600 counties in non-mail

areas were resampled. A full study on the accuracy of the census samples is still in progress.

Regardless of the type of enumeration procedure (mail or non-mail), certain types of living arrangements (called special places) were handled differently. Examples of special places are rooming houses, dormitories, and military bases. In general, persons within special places were sampled. The sampling procedures for such places are beyond the scope of this paper, but special places were generally sampled by field personnel (even in mail areas) under a set of prescribed rules that would yield an unbiased sample if appropriately applied.

Choice of sampling rate.—The use of three samples allowed for more questions to be asked since some were asked only on the 15% or 5% questionnaires. To decide the size of sample to be used for a specific question one consideration is the cost of collecting and processing the data.[6] Additional factors to be considered are the time required for detailed coding, the quality of the data obtained. the geographic detail for which the data is to be published and possible delays in publication. For large geographic areas a small sample may suffice while for smaller areas larger samples may be needed because of sampling error.

In the 1970 census the industry and occupation data were collected from a 20% sample. The estimated error rates are give in Table 2.

TABLE 2. ESTIMATES OF CLERICAL CODING ERROR RATES AND STANDARD ERRORS BY TYPE OF CODING

Type of coding	Coding error rate (percent)	Standard error (percentage points)
Total	8.9	0.21
Industry	9.1	0.34
Occupation	13.3	0.40
Class of Worker	4.0	0.23

Source: U.S. Bureau of the Census, Census of Population and Housing: 1970, Evaluation and Research Program, *Coding Performance in the 1970 Census*, Washington, D.C., 1974, p. 10.

Table 3 shows that for areas of 10,000 population or more the reliability of the statistic depends almost exclusively on the error rate of the coding operation. The sampling variability adds a relatively minor component to the potential error due to the coding of the data. The data presented in Table 3 are based on the assumption that the accuracy of the statistic depends only on sampling variability and coding error. Other types of error, such as interviewer variance, are not included in the computation.

Estimation procedure.[7]—The statistics based on 1970 census sample data are estimates made through the use of ratio estimation procedures, which were applied separately for population and for housing data for each of the 5%, 15%, and 20% samples. The first step in carrying through the ratio estimates was to establish the areas within which separate ratios were to be prepared. These are referred to as "weighting areas." For the 15% and 20% samples, the weighting areas contained a minimum population size of 2,500. Weighting areas were established by a mechanical operation on the computer and were defined to conform, as nearly as possible, to areas for which tabulations were produced. Where weighting and tabulation areas do not agree (primarily for smaller areas), there may be some differences between complete counts and sample estimates.

The ratio estimation process for population operated in three stages. The first stage employed 19 household-type groups. The second stage used two groups, head of household and not head of household, and the third stage used 24 age-sex-race groups.

At each stage, for each of the groups, the ratio of the complete count to the weighted sample count of the population in the group was computed and applied to the weight of each sample person. This operation was performed sequentially for each of the 19 groups in the first stage, then for the two groups in the second stage, and finally for the 24 groups in the third stage. As a rule, the weighted sample counts within each of the 24 groups in the third stage should agree with the complete counts for the weighting areas. Close, although not exact, consistency can be expected for the two groups in the second stage and the 19 groups in the first stage.

Each sample person was assigned an integral weight to avoid the complications involved in rounding in the final tables. If, for example, the final weight for a 20% group was 5.2, one-fifth of the persons in the group (selected at random) were assigned a weight of 6 and the remaining four-fifths a weight of 5.

A summary of the weights assigned for the 20% sample of persons is shown below. Table 4 shows a larger variability in the weights of the sample cases in areas where the non-mail procedure was used. This larger variability is due to the interviewer effects in identifying the sample.

[6] *Sampling Applications in Censuses of Population and Housing*, Bureau of the Census, Technical Paper No. 13, Washington, D.C., 1965, p. 2.

[7] Based on the description given in the 1970 Census of Population and Housing, Volume PC(1), Appendix C.

TABLE 3. STANDARD ERROR AND TOTAL ERROR (IN PERCENT) FOR INDUSTRY AND OCCUPATION DATA BASED ON A 20% SAMPLE

Estimated percentage	Base of Percentage					
	2,500		10,000		100,000	
	Standard error	Total error[1]	Standard error	Total error[1]	Standard error	Total error[1]
2 or 98	1.0	9.0	0.3	8.9	0.1	8.9
5 or 95	1.5	9.0	0.5	8.9	0.1	8.9
10 or 90	2.1	9.1	0.7	8.9	0.2	8.9
25 or 75	3.0	9.4	1.0	9.0	0.3	8.9
50	3.5	9.6	1.1	9.0	0.3	8.9

[1] Based on an industry and occupation coding error rate of 8.9%. The total error is the square root of the sum of the square of the sampling error plus the square of the coding error rate.

The ratio estimates realize some of the gains in sampling efficiency that would have resulted had the population been stratified into the groups before sampling. The net effect is a reduction in both the sampling error and possible bias of most statistics below what would be obtained by weighting the results of the sample by a uniform factor (e.g., by weighting the 20% sample results by a uniform factor of 5). A byproduct of this estimation procedure is that estimates for this sample are, in general, consistent with the complete count for the population groups used in the estimation procedure.

TABLE 4. PERCENT OF 20% SAMPLE PERSONS BY ASSIGNED WEIGHT AND CENSUS PROCEDURE

Assigned weight	Population		
	Total	Mail procedure[1]	Non-mail procedure[1]
0	.01	.01	(*)
1-2	.51	.45	.75
3	4.30	4.06	5.35
4	22.46	22.14	23.34
5	41.39	41.36	39.73
6	21.37	21.65	20.48
7	6.36	6.58	6.43
8	2.06	2.16	2.19
9	.79	.82	.87
10-11	.51	.54	.59
12-13	.14	.14	.16
14-19	.08	.08	.08
20 and over	.01	.01	.01
Percent in sample	19.40	19.31	19.52

* Less than .01% [1] Complete figures by census procedure are not available. Distributions are approximated by using data for areas in which one procedure dominated.

Source: J. Waksberg, Robert Hanson and Peter Bounpane, "Estimation and Presentation of Sampling Errors for Sample Data from the 1970 U.S. Census," *Bulletin of the International Statistical Institute*, Vienna, Austria, 1975, p. 76.

Description of reliability of data.[8]—In order that sample statistics from the census be properly interpreted, a statement on their reliability appears in census publications. The estimates of sampling variability reflect sampling error and the effect of the estimation process but do not reflect the full effect of response or processing variance, or any effect of bias arising in collection, processing, or estimation.

To compute and show the sampling error for each published characteristic in each tabulation area would have been costly and time consuming, as well as increasing the number of pages needed to publish the results. It was decided, therefore, to group the individual census items into homogeneous classes and show in the publications the average of the sampling errors for the items in each class.

Almost all of the statistics tabulated from the census sample can be characterized as 0-1 variates; that is, the person is assigned the value "one" if he has the characteristic and "zero" otherwise. The design of the census sample and the ratio estimation procedure was such that the variances would usually have a fairly simple relationship to those arising from a simple random sample of the same size. It was therefore decided to present the sampling errors in the form of "factors over random" or design effects. The design effect (the ratio of the estimate of the variance of the census sample to the variance for a 20% simple random sample) was measured for a set of items in a class. The ratios were averaged over the items in the class and the square root of the average was used in determining the standard error for all items in the class.

Each census volume contains a section on the reliability of the data which includes three tables. Two of the tables show the standard errors of a 20% simple

[8] Based on description given in U.S. Bureau of the Census, U.S. Census of Population and Housing: 1970, *Procedural History*, PHC(R)-1E, Advance issuance of Chapter 11, Washington, D.C., 1974, pp. 11-4, 11-6.

random sample for 0-1 characteristics; one applies to estimates of magnitudes, the other to percentages. The third table reflects the design effects, that is, it provides adjustment factors to be applied to the standard errors shown in either of the first two tables. The reader is required to look up the item of interest in the third table and multiply the factor shown in that table by the appropriate standard error of his census statistic.

In order to produce the design effects, it was necessary to estimate the variance of the census statistics. Because a complex estimator and a systematic sample of clusters (households) were used, no simple mathematical formula could be derived that would directly estimate the variance from the census sample. The variances of census estimates were therefore approximated by a half-sample replication approach. The process used to develop sampling errors was, in fact, a sample. The calculations were done on a sample of items and for a sample of States.

Sampling error is only one source of error in survey statistics. Non-sampling error is also important and in some cases far more important than sampling error. As part of the 1970 census a series of studies was developed to measure and evaluate some of the error in the census. A description of these studies is beyond the scope of this paper.[9] The important point to note is that a large effort was made to attempt to measure potential error in the data and to make this information available to the data user and as an input to the planning of the 1980 census.

Subsamples of the 1970 Census

In addition to collecting data on a sample basis in the census, samples were also used in other parts of the census operation. Samples can be used to measure progress and especially to monitor a new system. Further, since there is a limitation to the number of questions that can be asked at census time, post-censal surveys can be taken to gain additional information. As mentioned, sample studies were done to measure non-sampling errors. Finally, to allow the user to tabulate items as he wishes, samples of the micro-records were made available. Sampling was also an integral part of the quality control procedures of the entire census process.

Early Warning Sample.[10]—The Early Warning Sample provided quick estimates of mail-return and failed-edit rates for various parts of the country and anticipated the workload in the census field offices. Many staffing and operational decisions had been based on predicted levels. The Early Warning System was used to get a reading on the accuracy of these predictions.

For mail census areas a sample of mailing pieces was selected during the addressing operation, and a special return envelope was inserted. When the mail area householder in this sample completed and mailed in his questionnaire, it first went to a central office where a photocopy was made. Then the actual questionnaire was redirected to the appropriate local census district office for regular census processing. The results of the mail-return portion of the Early Warning Sample are shown in Table 5 and confirmed predicted mail-return rates.

TABLE 5. RESULTS OF MAIL RETURNS IN EARLY WARNING SAMPLE

Classification	Long questionnaire	Short questionnaire
Total	5,300	4,850
Mail return cases	4,000	3,800
Non-mail return cases	1,300	1,050
Occupied units	920	825
Vacant units	380	225

Census Employment Survey.[11]—The Census Employment Survey (CES) is an example of a compromise between the need for extensive detail in a particular subject matter and the limitations of cost, timing and respondent burden in the census. The solution was to conduct a large post-census survey in selected problem areas between August 1970 and March 1971 as part of the overall program of the 1970 Census of Population and Housing. Unlike the census, the CES was not a mandatory survey; response was voluntary. Detailed socioeconomic information on employment-related problems was collected in each of 60 urban areas located in 51 cities and in 7 rural areas.

To produce data of appropriate reliability it was necessary to interview separately each household member age 16 and over within the 245,000 households (about 3,600 per area) chosen for the survey.

In urban areas, the frame for the selection of households was the computer list of addresses used to deliver the 1970 decennial census questionnaires, supplemented by an additional clerical operation to sam-

[9] The results of each study and the methodology used are published in the 1970 Census of Population and Housing, *Evaluation and Research Program* series, PHC(E).

[10] Based on *Procedural History,* Advance issuance of Chapter 14, Washington, D.C., 1973, pp. 14-12, 14-13.

[11] Based on *Procedural History,* Advance issuance of Chapter 12, Washington, D.C., 1974, pp. 12-1 to 12-4, 12-21, 12-22.

ple addresses added during the census and to cover addresses not on the computer list. Households which received sample questionnaires in the census were not eligible for selection in the CES to reduce the burden on respondents who had already provided information for the census.

The sample for rural areas was selected after the 1970 census had been completed. In areas where households generally were identified by a street name and house nu er in the census, samples of six consecutive units were selected manually from the census listing books. The interviewer was given the addresses of these six contiguous units to interview. In areas where addresses generally were recorded in the form of route numbers or post office box numbers, a system of "area segments" was used. A systematic sample of segments containing an expected six housing units was selected. The interviewer was instructed to interview all housing units in the selected land segments.

The estimates from the CES were developed through the use of a ratio estimate to 1970 Census population counts. The net effect of this procedure was a reduction in both the sampling error and possible bias of most statistics below that which would have been obtained by weighting all of the sample households and persons by a uniform factor. As a consequence of this estimation procedure, the estimates from the sample tend to be consistent with the census counts for the groups used in the ratio estimation procedure.

Sample selected for reinterview and evaluation of content error.[12]—A major evaluation project in the census was an independent reinterview of a sample of households with an intensive probing type questionnaire. The data collected in the reinterview were compared with the decennial reports for the same households and return visits were made to probe further in cases where the decennial and reinterview data differed in order to determine which data appeared to be correct.

The 1970 sample included about 11,000 housing units (about 10,000 occupied and 1,000 vacant) containing about 30,000 persons for which reinterview data were collected. The 1970 content reinterview sample cases were selected from those households which were in the 1970 census sample. There was emphasis on subjects introduced in the decennial census for the first time in 1970.

The reinterviews were conducted by personal visit using experienced field interview staff. Every adult was expected to respond for himself in the reinterview, and a specific respondent was designated to provide the housing data. Reinterview responses were compared manually with responses on the census questionaire for identical persons and housing units. Response differences between the two records were scheduled for reconciliation through a third interview.

CPS-census match.[13]—The Current Population Survey (CPS) is an ongoing survey which the Census Bureau conducts monthly to collect labor force data on a sample of about 50,000 households. Those households which were interviewed in the March 1970 CPS were searched for in the census records in order to obtain an estimate of the gross number of missed units.

For CPS units found to be included in the census two additional types of estimates were made:

1. A comparison was made of the household members listed in the CPS with those enumerated in the census in order to estimate the census population undercoverage.

2. For content evaluation, data from the two sources were examined for consistency of reporting.

Data were also tabulated on the number and characteristics of CPS household members whose housing units were not found to be listed in the census.

The records used for content evaluation were the subset of the 50,000 occupied housing units included in the March 1970 CPS sample that were enumerated as occupied on the census sample questionnaires (approximately 20% of the CPS sample). As a result, about 10,000 households were included for comparing responses. In content evaluation, CPS records that were matched to census households enumerated on sample questionnaires were used to obtain estimates of response differences for many of the demographic and labor force items in the census.

In addition to the fact that the CPS was a source of records of high quality for checking the accuracy of the census, there were a number of other reasons for relying so heavily on the CPS as an evaluation source. First, the CPS-census match produces useful information on causes of differences between the two. Second, similar matching studies had been carried out as a part of the 1960 evaluation program and had produced valuable data on accuracy of responses in the census. The previous experience had indicated that the matching projects were feasible and likely to

[12] Based on *Procedural History,* Advance issuance of Chapter 14, Washington, D.C., 1973, pp. 14-9, 14-10.

[13] Based on *Procedural History,* Advance issuance of Chapter 14, Washington, D.C., 1973, pp. 14-4, 14-9, 14-10.

produce accurate and timely data on completion; that the costs should be quite reasonable for the amount of data to be obtained; and that the projects should not seriously interfere with regular census operations.

Public-use samples.[14]—Public-use samples are samples of the Bureau's basic census records for individual persons, households, and housing units, with identifying information (such as names, addresses, and detailed geography) removed to preserve the confidentiality of the records. These data are made available to the general public on computer tapes on which responses to the items on the census sample questionnaires are given as numeric codes.

Six different public-use samples were drawn from the basic records of the 1970 census, three from the 15% sample and three from the 5% sample, one for each of three types of geographic breakdowns—county group samples, State samples, and neighborhood characterictics samples. In addition, a 1-in-1,000 and 1-in-10,000 subsample were prepared from each 1-in-100 sample.

Public-use samples of the 15% and 5% data for 1970 were prepared separately, since the two 1970 sample questionnaires contained some different questions. Each 1-in-100 sample of the total population actually contained either one-fifteenth of all 15% basic records or one-fifth of all 5% basic records, including slightly over two million persons in each case.

Conclusion

As part of a census, sampling can benefit in many areas such as reducing costs, improving efficiency, checking the validity of operations, and providing measures of error. In this paper we have given some specific examples of the application of sampling to the 1970 census of United States of America. The general considerations, however, are appropriate to any census. There are some points that are worth repeating.

1. In any sampling operation, controls should be developed to insure there is no serious bias in sample selection.

2. When data are collected on a sample basis, methods can be developed to improve the reliability of sample estimates by making use of complete count data. A byproduct of these methods is consistency between a sample count and a complete count of the same item.

3. When data are collected on a sample basis, sampling errors should be estimated and presented to users.[15]

4. Sampling should be considered not only for cost efficiency, but also for accuracy of the data. Nonsampling errors can be reduced by concentrating efforts on a subset rather than the complete universe.

5. Sampling is an effective tool for controlling the census operation in aspects such as field work, editing and coding, as well as for evaluating the quality of data.

Further, many special topics of interest to policymakers and the public which cannot be covered in the regular census questionnaire may be covered in post-census sample surveys. Since the number of questions which can be asked in the census are limited by time, space on the questionnaire, and the burden which can be imposed on the public, the planning of post-census surveys is an efficient method of collecting additional information.

Sampling will continue to be an essential feature of decennial censuses. There is need, however, for detailed data more often than every 10 years. Large intercensal sample surveys would be a cost-efficient solution to fill this need.

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[14] Based on *Procedural History,* Advance issuance of Chapter 13, Washington, D.C., 1973, p. 13-15.

[15] See *Standards for Discussion and Presentation of Errors in Data,* U.S. Bureau of the Census, Technical Paper No. 32, Washington, D.C., 1974.

CURRENT DEVELOPMENTS

NEW COINCIDENT AND LAGGING INDICATORS

The Bureau of Economic Analysis of the Department of Commerce published revised coincident and lagging indicators in the November issue of the *Business Conditions Digest*.

A technical article, "New Composite Indexes of Coincident and Lagging Indicators," prepared by Victor Zarnowitz of the Graduate School of Business of the University of Chicago and Charlotte Boschan of the National Bureau of Economic Research, examines the rationale for the use of an indicators approach to analyzing business conditions, explains the reasons for the component series in the new index, and provides data back to 1948.

For more information, see the November 1975 *Business Conditions Digest*, a monthly publication of the Bureau of Economic Analysis. It is available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Annual subscription is $55.25. Reprints of "New Composite Indexes of Coincident and Lagging Indicators" are available from the Statistical Indicators Divisions, Bureau of Economic Analysis. (FELIKS TAMM, CHIEF, STATISTICAL INDICATORS DIVISION, BUREAU OF ECONOMIC ANALYSIS, DEPARTMENT OF COMMERCE, telephone (301) 763-7614.)

THE SIZE AND SHAPE OF THE MEDICAL CARE DOLLAR

The 1975 chartbook, *The Size and Shape of the Medical Care Dollar* (fifth edition), has been published by the Social Security Administration. The latest available information on such topics as public and private spending for medical care, reasons for increases in hospital costs, source of payment for various medical services, and age differences in health care spending is presented on 16 charts which are supplemented by explanatory text.

Since the late 1960's, outlays for medical care have been shifting from private to public sources. At the same time, amounts spent for health care and prices for medical services and supplies have soared. The patient's *share* of medical care expenses has decreased (public funds now pay one-third of the Nation's personal health care bill); but the patient's out-of-pocket dollar expense has increased sharply, especially for the aged.

Single copies of *The Size and Shape of the Medical Care Dollar* (DHEW Publication No. (SSA) 76-11910) are available for official use from the Publications Staff, Office of Research and Statistics, Social Security Administration, Room 1120 Universal North Building, 1875 Connecticut Avenue, N.W., Washington, D.C. 20009, telephone (202) 382-3261 or within Government, 128-3261. The chart book is available in quantity from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (Stock Number 017-00270-6) at 80 cents per copy. (ROBERT E. ROBINSON, PUBLICATIONS STAFF, OFFICE OF RESEARCH AND STATISTICS, SOCIAL SECURITY ADMINISTRATION, DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE, telephone (202) 382-3261.)

ECONOMIC AREAS OF THE UNITED STATES

Analysis of the regional distribution of economic activity in the United States has often been hampered by the use of geographic units that are political or administrative in nature. In view of this fact, the Bureau of Economic Analysis has defined 173 economic areas which cover the entire country and permit economic analysis in finer geographic detail than do States, and in finer geographic and industrial detail than do standard metropolitan statistical areas.

An article in the November 1975 issue of the *Survey of Current Business*, "The BEA Economic Areas: Structural Changes and Growth, 1950-1973," explains how the boundaries of the BEA economic areas were delineated and presents the areas' industry structures which results from this delineation. The article also includes data on personal income and population for selected years.

The November issue of the *Survey of Current Business* is available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Single copy price is $2.25; annual subscription, $48.30.

Reprints of the article and a 28" × 41" map of the areas are available from the Regional Economic Analysis Division, Bureau of Economic Analysis, Department of Commerce, Washington, D.C. 20230. (HENRY L. DEGRAFF, BUREAU OF ECONOMIC ANALYSIS, DEPARTMENT OF COMMERCE, telephone (202) 523-0528).

CALENDAR YEAR 1975 SUPPLEMENTS TO THE CURRENT POPULATION SURVEY

In addition to the monthly information on employment and unemployment collected for the Bureau of Labor Statistics, the following supplementary data have been obtained during calendar year 1975 in the Census Bureau's Current Population Survey (CPS) program. Results will be issued by, and inquiries should be addressed to, the sponsoring agency.

Annual Demographic Supplement (March 1975) is sponsored annually by the Bureau of the Census and the Bureau of Labor Statistics jointly, to obtain information on 1974 work experience, including weeks employed full- or part-time, weeks unemployed, major reason for not working, and industry and occupation of longest job; income from all sources during calendar year 1974; migration of the population since March 1, 1970; household composition and family characteristics; and limited housing characteristics. The supplement was conducted in the full CPS sample plus an additional 2,100 households of Spanish origin selected from the November 1974 CPS.

Survey of Food Stamp Recipiency (April 1975) was sponsored by the Office of the Assistant Secretary for Planning and Evaluation, Department of Health, Education, and Welfare as the third in a series of supplements concerning this subject. Questions concerned receipt of food stamps by any current household member during the preceding 15 months and, if food stamps were received during the first 3 months of 1975, the cost and value of those received during the most recent month. In August 1975 the fourth survey in the series was conducted in the full national CPS sample and was a repeat of the August 1974 survey. This supplement obtained more data than the April survey and included such subjects as cost and value of food stamps received during the most recent of the preceding four months, number of household members for whom the stamps were issued, receipt of transfer payments during July, family income in July, and mortgage or rental payments during July. The latter questions are designed to identify those households eligible to receive food stamps, regardless of whether they were receiving them at the time. In December 1975 the fifth survey was conducted in the full CPS sample. This supplement contained a single question concerning the receipt of food stamps by any household member during 1975.

Survey of Multiple Jobholding and Premium Pay (May 1975) was sponsored by the Bureau of Labor Statistics to obtain information on the incidence and characteristics of persons working at more than one job during the survey week, to determine whether wage and salary workers reporting more than 40 hours of work during the week received premium pay for their overtime hours, and to measure the extent of normal overtime work. In addition to these topics, information was collected on usual beginning and ending hours of work and usual number of days worked per week, along with usual weekly earnings and labor union membership. This supplement was conducted in the full CPS sample.

Survey of Adult Education (May 1975) was a self-enumeration/mail return survey conducted for the National Center for Education Statistics to measure other than full-time enrollment in postsecondary education or in adult education courses during the preceding 12 months. Content of the survey concerned the type of facility offering the courses, types of courses taken and reasons for taking them, duration of and satisfaction with the training, and sources of funding for the course. This survey, which was similar to those conducted in May 1969 and May 1972, was conducted in the full CPS sample.

Survey of Marital History, Child Spacing, and Future Birth Expectations (June 1975) was sponsored by the National Institute for Child Health and Human Development to collect data on number of marriages, duration of first marriage, and number of children ever born to ever-married women including dates of birth, sex, and the currect residence of the children. Currently married women age 14-39 and never married or previously married women age 18-29 were asked whether they plan to have any (more) children and the number planned, and those currently married were also asked when they expect to have their next (first) child.

Survey of Languages (July 1975) was conducted for the National Center for Education Statistics to obtain information on usual and secondary languages spoken in the home and by each individual age 4 or older.

Also collected was information on mother tongue, place of birth, school enrollment status, whether the individual has difficulty speaking or understanding English, and whether the individual has received school instruction taught in a language other than English. This supplement was conducted in the full CPS sample.

National Immunization Survey (September 1974) is sponsored annually by the U.S. Public Health Service to obtain current data on the extent of immunization against influenza, polio, diptheria, tetanus, whooping cough, measles, mumps, and smallpox. Also measured was the incidence of diabetes and chronic lung and heart conditions. This supplement was conducted in three-quarters national CPS sample.

National School Enrollment Survey (October 1975) was sponsored jointly by the Bureau of the Census, Bureau of Labor Statistics, and the Office of Education to obtain information on current school enrollment, date last attended school, year of high school graduation, and future educational plans of high school seniors. Also included in 1975 were questions concerning type of residence of persons enrolled in postsecondary education; whether high school graduates received their diplomas by graduating with a regular high school class, taking an equivalency examination, or some other way; and whether recent high school graduates applied for and qualified for a Basic Educational Opportunity Grant for the 1975-1976 school year. This supplement was conducted in the full national CPS sample.

Survey of Earnings (November 1975) was sponsored by the Bureau of Labor Statistics to supplement the earnings information collected in May and to test a new series of questions designed to elicit more precise earnings data. Questions were designed to obtain actual pay rate (e.g., $750 per month) instead of an estimate of weekly earnings. Additional questions concerned the incidence and rate of overtime pay on a weekly and daily basis, labor union membership, and whether the individual's rate of pay is set by a contract between a union and the employer. This supplement was conducted in two-thirds of the national CPS sample.

Farm Wage Workers Survey (December 1975) is conducted annually for the Department of Agriculture to obtain data on the total days of farm and nonfarm work, farm and nonfarm wages, chief activity during the year, and migratory status of persons who performed farm work for cash wages during the year. Additional questions in 1975 concerned number of different farm employers and various housing characteristics of farm worker households. Approximately 2,200 cases were screened from the full CPS sample. (B. GREGORY RUSSELL, CPS AND RELATED SURVEYS BRANCH, BUREAU OF THE CENSUS, DEPARTMENT OF COMMERCE, telephone (301) 763-2773.)

1970 CHILDSPACING AND CURRENT FERTILITY

This 1970 Census Bureau report presents retrospective data for the United States on the family building patterns of cohorts of women. The cumulative numbers of their children are shown as the women passed through successive childbearing ages (for birth cohorts of women) and through successive intervals since marriage (for marriage cohorts of women). Also presented are data on current fertility or births occuring each year, 1955 to 1969, including age-specific birth rates, distributions of births by intervals since marriage of the mother, and spacing since the mother's preceding child. Births to mothers while single are shown as well as those to mothers who have married. The events were tallied from the dates of marriage of women, birth dates of the children, and related information.

Public use sample.—A special 1970 census public use 1% sample, oriented toward the study of fertility, has also been produced in conjunction with the Census Bureau research project that resulted in the report described above. The sample contains information on all members of the selected households plus an additional childspacing record for each woman in the sample who is 14 to 54 years old, or a woman 55 years old or older who first married after 1949. The additional record contains recoded information regarding the woman, her husband (if any), and the woman's reconstructed fertility history. The data file is organized geographically on a State or State-group basis.

The sample for the entire United States is contained on 33 reels of tape. The cost of reproducing the sample is $80 per reel. Tape characteristics are: Standard labels; 7 track 556 or 800 bpi BCD, or 9 track 800 bpi EBCDIC, ASCII; record length is 120 characters and blocksize is 1800 characters (15 records to a block). For further information concerning tape documentation or ordering tapes, contact Larry Carbaugh, Chief, Customer Services Branch, Data User Services Division, Bureau of the Census, Washington, D.C. 20233, telephone (301) 763-5045.)

Copies of the PC(2)-3B report, *1970 Census of Population,* "Childspacing and Current Fertility," (515

pp., $8.35) may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (MAURICE J. MOORE, POPULATION DIVISION, BUREAU OF THE CENSUS, DEPARTMENT OF COMMERCE, telephone (301) 763-5303.)

STATE AND COUNTY SUPPLEMENTAL SECURITY INCOME DATA

The Office of Research and Statistics of the Social Security Administration has recently released *Supplemental Security Income State and County Data, June 1975*. This 65-page report presents data on State and county distributions of federally administered payments to persons receiving supplemental security income (SSI) in June 1975. State data are also presented on the combined amounts of Federal SSI payments and federally administered State supplementary payments. Also reported are State figures reflecting the total number of persons with payments during June. County data are based on the number of beneficiaries receiving payments during June who were also eligible for supplemental security income payments July 1, 1975. In this issue, county data are not reported for Alaska, Massachusetts, and Texas.

Single copies of *Supplemental Security Income State and County Data, June 1975* (DHEW Publication No. (SSA) 76-11976) are available from the Publications Staff, Office of Research and Statistics, Social Security Administration, Room 1120, Universal North Building, 1875 Connecticut Avenue, N.W., Washington, D.C. 20009. (ROBERT E. ROBINSON, OFFICE OF RESEARCH AND STATISTICS, SOCIAL SECURITY ADMINISTRATION, DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE, telephone (202) 382-3261.)

CENSUS STUDIES IMPLICATIONS OF UNDERCOUNT FOR PUBLIC PROGRAMS

The Census Bureau recently published *Current Population Reports,* Series P-23, No. 56, which summarizes earlier findings on the coverage of the national population in the 1970 census, presents alternative experimental estimates of coverage of State populations, and offers illustrative calculations which indicate some of the effects of undercoverage for States on political representation and on distribution of public funds.

Although satisfactory estimates of coverage for States and smaller political units have not yet been developed, the Census Bureau prepared four sets of experimental "corrected" State populations for illustrative purposes, using partly arbitrary criteria. The first of the correction procedures, termed the basic synthetic method, applied national coverage rates by age, race, and sex, or by race only to the census figure for each State. Three alternative correction procedures, termed "modified" synthetic methods, allowed for State variations in the proportion below the poverty level, median family income, and educational attainment.

The report discusses the effect of underenumeration of State population on the apportionment of public funds among the States in general, and illustrates the implications of undercoverage of State populations on the distribution of General Revenue Sharing funds. Another illustration of the effect on political representation was developed to demonstrate the possibility of shifts in the number of representatives from Congressional, State, or local legislative districts from one geographic part of a State or city to another.

Copies of the report, "Coverage of Population in the 1970 Census and Some Implications for Public Programs," *Current Population Reports,* Series P-23, No. 56 (28 pages, 90 cents) may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, C.C. 20402, or at any Commerce Department District Office. (JACOB S. SIEGEL, POPULATION DIVISION, BUREAU OF THE CENSUS, DEPARTMENT OF COMMERCE, telephone (301) 763-5784.)

FIVE NEW SOCIAL SECURITY BULLETIN REPORTS

The Office of Research and Statistics in the Social Security Administration has announced the availability of five new reports.

Activities and Expenditures of Preretirees (by Janet Murray, *Social Security Bulletin,* August 1975). For the person nearing retirement, two areas of concern are the need to spend less because income is less and the need to develop leisure activities. In its examination of the retirement process, The Retirement History Study of the Social Security Administration collected information on the spending of preretirees aged 58-63 for key budget items, as well as data that may help to gauge the level of their interest in certain leisure activities. Changes in these items are to be noted as the survey continues. This article describes the levels and activities in 1969 for men with wife present, and for nonmarried men and women.

Retired-Worker Beneficiaries Affected by the Annual Earnings Test in 1971 (by Barbara A. Lingg, *Social Security Bulletin,* August 1975). Every year some older persons entitled to retired-worker benefits lose some or all of their benefits because of the annual earnings test. This article discusses those affected in

1971—who they were, how much they earned, how much they lost in monthly cash benefits, and the effect of family status on benefit amounts. In that year, among those aged 62-71, relatively fewer women than men lost benefits as a result of earnings from work because relatively fewer women worked and those who did had lower earnings.

Income of the Newly Disabled: Survey of Recently Disabled Adults (by Philip Frohlich, *Social Security Bulletin,* September 1975). Severely disabled and nonmarried persons had lower incomes in 1970 and married women had higher incomes than other recently disabled persons. Earnings were by far the most important source of income, with the severly disabled and the nonmarried having the least. Public income-maintenance programs were the next most important source of income—especially social security benefits. As income from earnings decreased, income from public income-maintenance programs tended to increase. Social security beneficiaries generally had lower incomes, received less of their income from earnings, and received more from public income-maintenance programs than others in the study.

Economically Dependent Persons Without Pension Coverage in Old Age (by Susan Grad, *Social Security Bulletin,* October 1975). Some persons, chiefly women, reach old age in a state of economic dependence without being able to qualify for a social security benefit—because they never acquire insured status for themselves and do not belong to the group of dependents who qualify on the basis of relationship to a retired or deceased insured worker. This article analyzes data from the Social Security Administration surveys and from the Bureau of the Census to provide an estimate of the size of this group and to determine who would be covered by a broadened definition of dependence. It appears that only a small proportion of the nonmarried aged or those approaching retirement—mainly women—lack qualification for some social security benefit in their older years.

Evaluating Vocational Rehabilitation Programs for the Disabled: National Long-Term Followup Study (by Joseph Greenblum, *Social Security Bulletin,* October 1975). Linkage of records of the Social Security Administration and the Rehabilitation Services Administration on cases closed by State vocational rehabilitation agencies now permits a continuous, long-term followup, on a national scale, of disabled persons after rehabilitation services. This report describes the purposes and methods of the link and demonstrates its feasibility for program evaluation. Analysis shows that rehabilitants have greater earnings than others and more often are employed and have recovered but that employment, earnings, and recovery levels remain low.

Single copies of the above publications are available for official use from the Publications Staff, Office of Research and Statistics, Social Security Administration, Department of Health, Education, and Welfare, Room 1120, 1875 Connecticut Avenue, N.W., Washington, D.C. 20009. (ROBERT E. ROBINSON, CHIEF, PUBLICATIONS STAFF, ORS, SSA, telephone (202) 382-3439.)

ECONOMIC CHARACTERISTICS OF THE METROPOLITAN AND NONMETROPOLITAN POPULATION: 1974 AND 1970

The Bureau of the Census has recently issued a report presenting data on selected social and economic characteristics of the population residing in central cities, suburban areas, and nonmetropolitan areas, for 1974 and 1970, from the March 1974 Current Population Survey and from the one-in-one hundred sample of the 1970 Census of Population.

Although the definition of metropolitan territory used in this report corresponds to that for the 243 standard metropolitan statistical areas (SMSAs) used in the 1970 census, data are presented separately for the SMSAs which were defined by the Office of Management and Budget between November 1971 and November 1973, so that a more current picture of metropolitan characteristics can be obtained. Nonmetropolitan population characteristics are presented as well, and data are also shown for groups of nonmetropolitan counties, based on the size of the largest place (incorporated city, town, borough) in the county.

A few of the highlights from the report include:

- The combined land area of metropolitan areas as defined in 1974 represented about 14% of the total U.S. land area, and these areas contained about 151 million persons, or 73% of the Nation's total population.

- The populations of metropolitan and nonmetropolitan areas are currently growing at about the same rate, representing a contrast to several decades prior to 1970 when the metropolitan population had grown at a faster rate than the nonmetropolitan population.

• Since 1970, the population of central cities decreased by about 2%, while the suburban population continued to increase.

• The decrease in city population occurred mainly in central cities of large SMSAs (with a population of 1 million or more) rather than cities of smaller standard metropolitan statistical areas.

• The number of blacks living in suburbs has increased by about 550,000 since 1970. However, as in both 1960 and 1970, blacks represented only about 5% of the suburban population in 1974.

• In 1974, 81% of the Nation's population of Spanish origin lived in metropolitan areas.

• Cities lost about 4.6 million persons to suburbs due to net migration between 1970 and 1974.

• The average income in 1973 of families who moved out of cities ($14,200) between 1970 and 1974 was higher than for families who moved to cities during this period ($12,900).

• Thus, if there had been no migration in and out of cities between 1970 and 1974, there would have been about $29.6 billion more income available to persons living in cities in 1974 than was actually the case.

• About 25% of the children under 18 years old living in cities were members of families headed by women compared with about 10% of suburban children.

• Both cities and suburbs saw increases in the educational attainments of their populations between 1970 and 1974. Cities have not experienced a net loss of college graduates as a result of their decreasing population during this period.

• Although the median family income of city families in 1973 continued to be less than that of suburban families (about $11,300 compared with $14,000, respectively), about one of every three city families had an income of $15,000 or more and 17% had an income over $20,000.

• Although a larger proportion of city families received some form of public assistance income in 1973 (about 10%) than was received by suburban families (about 4%), the latter group accounted for one-third of all families receiving public assistance income in metropolitan areas.

The detailed tables in the report include such subjects as: Population, marital status, household relationship, family size, migration, educational attainment, labor force status, occupation, industry, income and poverty. Most tables present data for the white and black populations, and selected tables have been repeated for the population of Spanish origin as well.

Copies of the report, "Social and Economic Characteristics of the Metropolitan and Nonmetropolitan Population: 1974 and 1970," *Current Population Reports,* Series P-23, No. 55, (120 pp., $2.55), may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, or from Commerce Department District offices. (MARK S. LITTMAN, POPULATION DIVISION, BUREAU OF THE CENSUS, DEPARTMENT OF COMMERCE, telephone (301) 763-5050.)

PROJECTIONS OF U.S. POPULATION: 1975 TO 2050

The Bureau of the Census has recently published a detailed national population projections report, entitled "Projections of the Population of the United States: 1975-2000." An advance report, *Current Population Reports,* Series P-25, No. 541 was published in February 1975.

The detailed report includes three main projection series reflecting different assumptions about future fertility and presents projections of the components of population change (births, deaths, and net immigration). Projections by age, sex, and race from 1975 to 2000, and by age and sex from 2000 to 2050 are included in the report. Three supplemental projection series are included which are based on assumptions of particular analytical interest about future fertility and net immigration.

The report includes discussions of the projection results and the underlying methodology and assumptions. In addition, the report includes a discussion of factors to consider in selecting a projection series and a summary of previous national population projections.

Copies of the report, "Projections of the Population of the United States: 1975 to 2050," *Current Population Reports,* Series-P-25, No. 601 (143 pp., $2.95), May be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 or from Department of Commerce District Offices. (CAMPBELL GIBSON, POPULATION DIVISION, BUREAU OF THE CENSUS, telephone (301) 763-5300.)

GRADUATE SCIENCE EDUCATION REPORT

The National Science Foundation recently released its seventh annual report on graduate enrollment in the sciences and engineering, *Graduate Science Education: Student Support and Postdoctorals, Fall*

1973 (NSF 74-318). This report provides data from an annual survey on sources and types of support utilized by graduate students and postdoctorals in doctorate-granting institutions, the only source of national statistical trends on student enrollment and patterns of support utilized in graduate science education.

Summary information on this subject was published in a July 1974 *Science Resources Studies Highlights—1973 Graduate Enrollment Down Another 2 Percent* (NSF 74-308). Tabulations from the survey appeared in October 1974 in *Detailed Statistical Tables* (NSF 74-318-A); *Detailed Statistical Tables* for 1974 (NSF 75-322) are also available from the Division of Science Resources Studies, National Science Foundation, Washington, D.C. 20550.

Copies of the report *Graduate Science Education: Student Support and Postdoctorals, Fall 1973* (NSF 74-318) are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 for $2.15 per copy, stock number 038-000-00239-4. (CHARLES E. FALK, DIRECTOR, DIVISION OF SCIENCE RESOURCES STUDIES, NATIONAL SCIENCE FOUNDATION, telephone (202) 282-7704.)

ADVISORY COUNCIL ON EDUCATION STATISTICS

The National Advisory Council on Education Statistics, mandated by the Education Amendments of 1974 has now been completed by the appointment of seven public members. The Council is to advise the Secretary of Health, Education, and Welfare and the Assistant Secretary for Education, to review the general policies for the operation of the National Center for Education Statistics, and to establish standards of high quality for statistics and analyses disseminated by the Center. It is expected to play a significant role in refining the long-range goals for the Center and the program directions to achieve these goals.

The Council has four ex-officio members, the Commissioner of Education, the Director of the National Institute of Education, the Director of the Bureau of the Census, and the Commissioner of Labor Statistics. The seven public members appointed by the Secretary are: Robert C. Vowels, Dean, School of Business Administration, Atlanta University; Robert J. R. Follett, President, Follett Publishing Company; John K. Folger, Director, Evaluation and Improvement of Statewide Planning in Postsecondary Education, Education Commission of the States; Ethel Stacy Crockett, California State Librarian; Ann Bromley, Dean of Records and Admissions, Santa Fe Community College; Albert H. Bowker, Chancellor, University of California; and Eleanor B. Sheldon, President, Social Science Research Council. The Assistant Secretary for Education serves as the non-voting presiding officer.

The Council which is to meet at least four times a year, convened for the first time November 11-12, 1975. The next session is scheduled for February 5-6, 1976. (O. JEAN BRANDES, NATIONAL CENTER FOR EDUCATION STATISTICS, DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE, telephone (202) 245-8812.)

1975 STATISTICAL ABSTRACT

The 1975 edition of the *Statistical Abstract of the United States* is now available. This 96th issue of summary statistics from the Bureau of the Census features more than 1,400 tables and charts on a wide variety of subjects.

The new aspects of this edition of the *Abstract* include the redesign and standardization of all the graphic charts, an increase in the number of tables showing data in both customary and metric units, and revision of the *Historical Statistics* appendix linking the tables in this *Abstract* to the new forthcoming edition of *Historical Statistics of the United States, Colonial Times to 1970.* In addition, many sections have undergone tabular rearrangement and format changes.

There are 78 entirely new tables scattered throughout the book, reflecting subjects of strong and continuing public interest. Among the subjects represented by the new tables are health-related problems, legal abortions, crime victimization, motor vehicle pollutants, Federal Government benefits and taxes, minimum and union wage rates, income shares of the poorest and wealthiest, family budget and food costs, foreign affiliates of U.S. multinational firms, oil and gas wells drilled, and countries receiving food aid from the United States.

The section on "Statistics for Federal Administrative Regions and States" presents a broad selection of social and economic data for the ten standard Federal regions, as defined by the U.S. Office of Management and Budget, and their component States. This section, combined with the "Metropolitan Area Statistics" section, is also available separately in a special reprint, *Statistics for Federal Regions, States, and Metropolitan Areas,* which can be obtained from the Assistant Public Printer (Superintendent of Documents) at $1.05 per copy (discount of 25% on orders of 100 or more sent to the same address).

Recent Social and Economic Trends, a new reprint from the *Statistical Abstract,* features a profile of current trends in 21 major subject areas, such as population, welfare, energy, business enterprise, etc. This reprint of the "Recent Trends" section of the *Abstract,* as yet unpriced, was expected to be released in December 1975.

USA Statistics in Brief, a pocket-size summary of socioeconomic data is included as an insert in the *Abstract,* and is also available separately for 25 cents each.

The *Statistical Abstract of the United States, 1975* (1,070 pp.) may be purchased in either a clothbound edition ($10.50) or paperbound ($8.00) from the Assistant Public Printer (Superintendent of Documents), U.S. Government Printing Office, Washington, D.C. 20402. (WILLIAM LERNER, DATA USER SERVICES DIVISION, BUREAU OF THE CENSUS, DEPARTMENT OF COMMERCE, telephone (301) 763-7024.)

DEFLATING DEFENSE EXPENDITURES

Methods of deflating defense expenditures in the United States and abroad are evaluated in *Measuring Price Changes of Military Expenditures,* published by the Bureau of Economic Analysis. The 474-page study reviews various theoretical price indexes and considers segments of the U.S. Department of Defense budget with a view toward adjusting the dollar figures for the effect of price changes.

Copies of *Measuring Price Changes of Military Expenditures* are available from the Superintendent of Documents, U.S. Government Printing Office Washington, D.C. 20402 for $5.50. Stock Number 003-024-01142-5. (WALTER H. BENNETT, BUREAU OF ECONOMIC ANALYSIS, telephone (202) 523-0744.)

BLS SAFETY AND HEALTH PUBLICATIONS

Studies of work-related injuries and illnesses in selected industries published by the Bureau of Labor Statistics between 1940 and 1970 are now available from the National Technical Information Service (NTIS). The 56 studies include data from 30 selected industries and are available individually or as a set in microfiche or paper copy from NTIS, Department of Commerce, Springfield, Va. 22161. Orders for sets should specify: PB-243 125/SET, Special Industry and Accident Cause Studies of the Bureau of Labor Statistics, 1940-1970. The microfiche price is $45 ($84 for orders outside the United States). Check or money order should be made payable to NTIS. Orders may also be charged to an American Express Card account number or an NTIS deposit account number.

An index to the publications included in the set, a price list of individual titles, and an order form may be obtained from the Bureau of Labor Statistics, Office of Occupational Safety and Health Statistics, or any of the Bureau's regional offices. (LYLE R. SCHAUER, OFFICE OF OCCUPATIONAL SAFETY AND HEALTH STATISTICS, BUREAU OF LABOR STATISTICS, DEPARTMENT OF LABOR, telephone (202) 523-9281.)

HANDBOOK OF LABOR STATISTICS, 1975—REFERENCE EDITION

The Bureau of Labor Statistics has recently released the 1975 edition of the *Handbook of Labor Statistics.* The 476-page indexed volume contains 181 statistical tables on labor force, employment, unemployment, hours, compensation, prices, living conditions, unions, industrial relations, national income, industrial satety, and foreign labor conditions.

In general, each table is complete historically, presenting annual data from the earliest date for which reliable and consistent figures are available. For many tables, monthly figures are shown for 1973 and 1974. A short technical note describes the source and limitation of each series.

Beginning in 1976, the *Handbook* will contain data only from 1967 forward. Generally, data included in the *Handbook* covering years prior to 1967 are not subject to revision and the Bureau will no longer publish these data in subsequent editions; therefore, the 1975 edition of the *Handbook* should be retained as a reference volume.

The *Handbook of Labor Statistics, 1975* (BLS Bulletin 1865) may be purchased for $5.35 from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, or from the BLS regional offices. (JAMES A. MCCALL, OFFICE OF PUBLICATIONS, BUREAU OF LABOR STATISTICS, DEPARTMENT OF LABOR, telephone (202) 523-1554.)

BIBLIOGRAPHY OF CENSUS BUREAU METHODOLOGICAL RESEARCH

The ninth in a series of annual publications which lists published and unpublished papers, memoranda, and reports on methodological research has recently been issued by the Bureau of the Census. The listed papers and publications describe research in progress and give research results when advanced sufficiently enough to be made available.

Copies of *Census Bureau Methodological Research, 1974: An Annotated List of Papers and Reports* (15 pp., 85 cents) may be purchased from Subscriber Services Section (Publications), Bureau of the Census, Department of Commerce, Washington, D.C. 20233. Single copies for official use are available upon request to the Data User Services Division, Bureau of the Census, Washington, D.C. 20233. (DEANE H. HARRIS, DATA USER SERVICES DIVISION, BUREAU OF THE CENSUS, telephone (301) 763-5460.)

RECENT NSF REPORTS

Expenditures for Scientific and Engineering Activities at Universities and Colleges, Fiscal Year 1973 (NSF 75-316) contains analysis of trends in the level of university research expenditures in the sciences and engineering by source of funds and other characteristics from 1964 through 1973. Prior reports in this series contained analyses of both expenditure and manpower data and were published under the title *Resources for Scientific Activities at Universities and Colleges*. Beginning with this report, data on university and college R&D expenditures will be published separately from those on scientific and technical manpower.

The following principal characteristics of R&D expenditures are examined: Source of funds; distribution among fields of science; and type of R&D activity (basic research, applied research, and development). Institutions are grouped by highest degree granted, type of control (public, private, etc.) and ranked by total and Federal R&D expenditure size, with subtotals for every ten institutions. Separate data are summarized for 23 Federally Funded Research and Development Centers (FFRDC's) administered by universities and colleges. Also included are separate chapters dealing with capital expenditures and instruction and departmental research in the sciences and engineering.

Copies of *Expenditures for Scientific and Engineering Activities at Universities and Colleges, Fiscal Year 1973* (NSF 75-316) are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 for $2.45 per copy, stock number 038-000-00243-1.

Science Resources Studies Highlights, Employment of Academic Scientists and Engineers Increases From January 1974 to January 1975 (NSF 75-331), November 3, 1975 summarizes data on scientists and engineers employed at universities and colleges. These data are shown by field of employment, sex, and the types and levels of institutions employing these personnel. Also discussed is the employment of Ph.D.s and graduate students.

Copies of *Science Resources Studies Highlights, Employment of Academic Scientists and Engineers Increases From January 1974 to January 1975* (NSF 75-331) are available from the Division of Science Resources Studies, National Science Foundation, 1800 G Street, N.W., Washington, D.C. 20550.

Also available and published prior to the final analytical report is *Detailed Statistical Tables of Manpower Resources for Scientific and Engineering Activities at Universities and Colleges, January 1975* (NSF 75-329).

Single copies of the *Detailed Statistical Tables* are available upon request from the Division of Science Resources Studies, National Science Foundation, 1800 G Street, N.W., Washington, D.C. 20550. (CHARLES E. FALK, DIRECTOR, DIVISION OF SCIENCE RESOURCES STUDIES, NATIONAL SCIENCE FOUNDATION, telephone (202) 282-7714.)

MEDICAL CARE BACKGROUND BOOK

A new edition of *Medical Care Expenditures, Prices, and Costs: Background Book* has been released recently by the Office of Research and Statistics, Social Security Administration. This 97-page publication presents an overview of the health care industry covering medical care expenditures and prices, hospital prices and costs, physicians' and dentists' fees and income. It also includes data on prescription drugs, skilled nursing care, and private health insurance.

Beginning in August 1971, the health industry was subject to mandatory economic controls under the economic stabilization program that remained in effect until April 30, 1974. The focus of this edition of the *Background Book* is on how medical care prices and costs responded during and after a period of economic controls.

Single copies of *Medical Care Expenditures, Prices, and Costs: Background Book* (DHEW Publication No. (SSA) 75-11909) are available from the Publications Staff, Office of Research and Statistics, Social Security Administration, Room 1120 Universal North Building, 1875 Connecticut Avenue, N.W., Washington, D.C. 20009, telephone (202) 382-3261. The report is on public sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 for $1.70. (ROBERT E. ROBINSON, OFFICE OF RESEARCH AND STATISTICS, SOCIAL SECURITY ADMINISTRATION, DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE, telephone (202) 382-3261.)

NEW URBAN ATLASES AVAILABLE

The following Urban Atlases have been printed and are available from the Government Printing Office:

Report Number	*SMSA*	*Cost*
GE80-3320	Honolulu, Hawaii	$2.55
GE80-8840	Washington, D.C.-Md.-Va. . .	$3.90
GE80-9320	Youngstown-Warren, Ohio . . .	$2.55
GE80-3000	Grand Rapids, Michigan	$2.55
GE80-3480	Indianapolis, Indiana	$3.90
GE80-5560	New Orleans, Louisiana	$2.55
GE80-7600	Seattle-Everett, Washington . .	$3.90

Atlases for Nashville, Tennessee; Sacramento, California; San Antonio, Texas; Phoenix, Arizona; and Portland, Oregon have been sent to the printer for publication and should be available within about four to six weeks. For further information on the expected publication dates of specific Atlases contact Chief, Geography Division, Bureau of the Census, Washington, D.C. 20233.

The digitized census tract boundary files for 239 of the 241 Standard Metropolitan Statistical Areas which existed in 1971 are available from the Customer Services Branch of the Data User Services Division. The files for the remaining two areas—Chattanooga, Tennessee and Memphis, Tennessee—were expected to be available in mid-November. (MORTON MEYER, CHIEF, GEOGRAPHY DIVISION, BUREAU OF THE CENSUS, telephone (301) 763-5636.)

RECENT UN STATISTICAL OFFICE PUBLICATIONS

Recent publications of the Statistical Office of the United Nations include *World Energy Supplies, 1970-1973; International Recommendations on Statistics of the Distributive Trades and Services;* Volumes I and II of the *Yearbook of International Trade Statistics, 1974; United Nations Standard Country or Area Code for Statistical Use;* and *Yearbook of Construction Statistics, 1964-1973.* Copies may be purchased from the Sales Section, United Nations, New York, New York 10017. Government agencies should request the discount to which they are entitled as it is not automatically given. When ordering, please use the sales numbers and prices which are shown as part of each description.

United Nations Standard Country or Area Code for Statistical Use (Statistical Papers, Series M, No. 49, Rev. 1. 10 pp., UN Sales No. E.75.XVII.8., $1.00) is a revision of the 1970 *United Nations Standard Country Code* (Statistical Papers, Series M, No. 49). It contains an alphabetical list of countries or areas (names in use on 1 July 1975), showing the United Nations three-digit numerical codes and eight- and twelve-character abbreviations, as well as two- and three-letter alphabetical codes (Alpha-2 and Alpha-3) proposed by the International Organization for Standardization (ISO) and supported by the Statistical Office of the United Nations. Each three-digit numerical code, designed for international use, uniquely identifies one country or area of the world. Adoption of this code would represent an important step in the standardization of material for data processing and in information transmission.

Yearbook of Construction Statistics, 1964-1973 (Statistical Papers, Series U, No. 2., 230 pp., UN Sales No. E. 75.XVII. 10., clothbound, $18.00) is the second issue in a new series of annual compilations of statistics on construction activity. It presents data for over 100 countries and territories. The national tables contain, in principle, two different sets of data. The first are estimates from annual surveys of units engaged in construction. The second are derived from information collected by local authorities for regulatory or control purposes. The following items are covered: general indicators of activity, fixed assets, permits authorized for building and dwelling construction and building construction and dwellings completed. In addition, an international table is included on index numbers of construction activity by countries.

World Energy Supplies 1970-1973 (Statistical Papers, Series J, No. 18., 211 pp., UN Sales No. E.75.XVII.13., $10.00) is the eighteenth in an internationally comparable series on energy. It contains historical quantitative annual data, drawn from a computer-processed data file on the production, imports, exports and gross consumption of solid fuels, petroleum and its principal refined products, gases (both natural and manufactured), and electricity (thermal, hydro, geothermal and nuclear) for approximately 195 countries and areas, on a *per capita* basis with sub-regional, regional and global totals. Separate data on bunkers for foreign-bound ships and aircraft are also shown, as well as end-of-year capacity figures for industrial and public electric generating plants and crude petroleum refineries. Data on the production of enriched uranium are also shown.

In addition, four special tables in matrix form show the flows of trade in crude petroleum, electricity, natural gas and solid fuels between regions and bet-

ween principal exporting and importing countries. This publication is a useful reference for economic energy forecasting.

International Recommendations on Statistics of the Distributive Trades and Services (Statistical Papers, Series M, No. 57., 55 pp., UN Sales No. E.75.XVII.9., $3.00) is an expanded and updated version of the 1958 *International Recommendations in Statistics of Distribution* (Statistical Papers, Series M, No. 26), adopted by the United Nations Statistical Commission at its eighteenth session (1974). The new recommendations deal with a number of problems not adequately treated in the earlier ones. In addition, they reflect the latest revisions of *A System of National Accounts* (Studies in Methods, Series F, No. 2, Rev. 3) and of the *International Standard Industrial Classification of All Economic Activities* (Statistical Papers, Series M, No. 4, Rev. 2).

The proposals are intended to assist countries in developing their national statistics; they could also provide a basis for the international reporting of statistics of the distributive trades and services. The recommendations constitute a program conceived as a set of standards aimed at the building up on an integrated system of statistics of the distributive trades and services. The program relates to the kinds of data which countries are advised to collect at different intervals of time. Some guidance on the kinds of priorities most likely to minimize the practical problems and also provide the most essential data is given.

Chapter I defines the types and frequency of inquiries and considers the scope and classification, coverage and reference period of the inquiries and the statistical unit to be used. It ends with a discussion of the treatment of ancillary units and secondary activities. Chapter II describes the characteristics of the statistical unit and its classification. Chapter III contains two tables that list the items of data recommended for collection and the statistics recommended for publication. Separate recommendations are made for countries with developed statistics for the distributive trades and services and for countries in the process of developing, or just beginning to develop, their distributive-trade statistics. Chapter IV contains the definitions of the items of data recommended for publication.

Yearbook of International Trade Statistics, 1974 (Statistical Papers, Series G, No. 23.; *Vol. I, Trade by Country,* 1019 pp.; *Vol. II, Trade by Commodity; Commodity Matrix Tables,* 731 pp. UN Sales No. E.75.XVII.14., $45.00 for both volumes; not sold separately) is the twenty-third issue, greatly expanded and therefore published in two volumes. It provides the basic information for individual countries' external trade performance in terms of over-all trends in current value as well as in volume and price, the importance of trading partners and the significance of individual commodities imported and exported.

Volume I, Trade by Country contains detailed data for individual countries or areas and basic summary tables showing, *inter alia,* the contribution of the trade of each country to the trade of its region and of the world, analysing the flow of trade between countries and describing the fluctuations in the prices at which goods moved internationally. The summary tables are: world trade by regions and countries or areas; world trade by commodity classes and regions; index numbers by commodity classes; exports of market economies: current values, unit value and quantum indexes; and index numbers by regions: quantum, unit value and terms of trade. *Volume II, Trade by Commodity* contains commodity tables showing the total economic world trade of certain commodities analysed by regions and countries; and commodity matrix tables.

This edition shows annual statistics for 147 countries. The data cover the years 1966-1974, the latest years available being shown for each country. For all countries, the analysis by commodity of imports and exports is made according to the Standard International Trade Classification, Revised (SITC, Revised).

1975 HAWAII STATE DATA BOOK

Hawaii's State Department of Planning and Economic Development recently published its *State of Hawaii Data Book 1975.* It is the ninth edition, containing 308 tables of data on Hawaii. The new 302-page volume contains more statistics about the State than any previous edition or any other work ever published in the Islands. New tables have been added on the following subjects: land use, noise levels, patents granted, retail sales, common reportable diseases, and number of bankruptcy cases.

Copies of the new State Data Book are available at $4.00 each within Hawaii and $5.00 postage paid outside the State, from the Department of Planning and Economic Development, Information Office, 7th Floor, Kamamaha Building, 250 South King Street, P.O. Box 2359, Honolulu, Hawaii 96804.

NEW REPORTING PLANS AND FORMS

The following listing gives brief descriptions of a selected group of new reporting plans and forms approved between November 18 and December 10, 1975, by the Office of Management and Budget under the Provisions of the Federal Reports Act. The description refers to surveys and data collection programs which are just being started or are soon to be started so results are not yet available.

Department of Agriculture

Economic Research Service

New England Landownership Survey (singletime).—The Economic Research Service has the task of determining the ownership of rural America. Several small scale studies have been conducted to test methods. This is the first regional sized study. It has two main objectives: (1) to determine the usefulness of local tax records as a sampling frame and as a source of certain types of data; and (2) to make state level inference about a number of landownership issues. Data will be obtained on type of ownership, size of holdings, length of ownership, absentee ownership, land values, land use, landowner income, citizenship, education, occupation and age. (For further information: Gene Wunderlich, Economic Research Service, Department of Agriculture, telephone (202) 447-8307.)

Farmer Cooperative Service

Equity redemption practices of agricultural cooperatives (singletime).—Equity redemption by cooperatives has traditionally been the responsibility of the board of directors. Recently, there have been attempts to legislate changes in this practice. This study will develop information about the extent and nature of equity redemption practices and programs carried out by farmer cooperatives. Major objectives are: (1) to identify equity retirement programs used by cooperatives; (2) document the length of revolving periods; and (3) evaluate potential for changes in cooperative policies. (For further information: David Volkin, Farmer Cooperative Service, Department of Agriculture, telephone (202) 447-8808.)

Food and Nutrition Service

Program of information for school breakfast program (singletime).—Public Law 94-105 directs the Secretary of Agriculture in cooperation with state educational agencies to carry out a program to make available the School Breakfast Program in schools where it is needed. This plan provides guidelines which may be useful to state agencies as they design their required plans and reporting procedures. (For further information: Jennifer Nelson, Food and Nutrition Service, Department of Agriculture, telephone (202) 447-9069.)

Statistical Reporting Service

Cost of production survey—meat animals (repetitive).—The meat animal portion of this ongoing survey is similar to the previous sections on cotton, feed grain, and dairy. The growing concern over prices and the relative prices received for meat animals by farmers has produced considerable interest by Congress and various consumer and producer groups. This survey will provide data from which the cost of production of the meat animals can be more accurately determined. (For further information: Dennis Findley, Statistical Reporting Service, Department of Agriculture, telephone (202) 447-2664.)

Department of Health, Education and Welfare

Runaway youth survey—parent and youth panels (singletime).—Parents with children aged 10-17 in over 3500 households and over 1600 children in these households are to be interviewed by telephone. This study seeks to provide an estimate of the number of youth between the ages of 10 and 17 who have runaway from home during the past year, as well as the frequency of such runaway episodes. Youth will be asked to describe runaway incidents, the time they were away from home, the distance they travelled, their destinations, and their involvement with the law. This survey was mandated by Congress. (For further information: Robert McGee, Office of Youth Development, DHEW, telephone (202) 245-2840.)

OTHER REPORTING PLANS AND FORMS

As an experiment we have been carrying a list of the titles of the *new* forms approved during a 4-week period. This list has appeared for several months. We have decided to carry this feature for a while longer, since the response from our readers has increased slightly. Your comments will be welcomed.

Shown below, by agency, is a list of forms approved between November 18 and December 10 excluding those described above. Questions or requests for additional information about any of the forms listed below should be addressed writing to Marsha Trayham, Statistical Policy Division, Office of Management and Budget, Washington, D.C. 20503.

During November approximately 76 forms reached their expiration dates and are no longer approved for use.

DEPARTMENT OF AGRICULTURE

Exploratory Study of Food Consumption Measurements
Livestock Feed Program Financial Statement
Customer Response Card-Aerial Photography
Certification of Technical Animal Fats for Export
Application for Voluntary Reimbursable Technical Animal Fat Certification for Export
1974/75 Cotton Marketing Costs
Certificate of Exchange of Food Coupons
Food Stamp Program
Blueberry Survey (Michigan)
Fruit Tree Survey (South Carolina)
Outlying Cabin Survey

DEPARTMENT OF COMMERCE

Inventory Valuation Retail Establishments (Supplements)
Inventory Valuation Wholesale Establishments (Supplement)
Evaluation of Census Bureau's Curriculum Support Materials
Global Market Survey Critique
Stocks of Wool and Related Fibers in the United States
Performance Report Work Sheet (A-95)
Economic Development Through State Planning Survey
Marine Weather Encoding Form
Bathy Encoding Form
Purse Seiner Position Encoding Chart
Questionnaire for Clinical Standard Reference Materials

DEPARTMENT OF DEFENSE

Medical Professional Recruitment Study

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Survey of Recent College Graduates
Measures of Teacher Outcomes
Review of Relevant Explorations in Active Learning: Adult and Student Version
Application for Assistance Under Emergency School Aid Act Title VII, P.L. 92-318 as Amended by P.L. 93-380
Effects of Compensatory Education
An Assessment of the State Agency Component of the Right to Read Program Questionnaires
Grant Payment Request, Title VII, Higher Education Act of 1965
Questionnaires and Related Reports for a New England Guidance Survey Project
Survey: Comprehensive Employment Training Act and Vocational Education
Health Effects of Dust and Diesel Exhaust on Non-Coal Underground Miners
North Carolina Brick Industry Respiratory Disease Morbidity Survey
Report of Research Use of Radioactive Drug Membership Summary; Study Summary
Inventory of Psychiatric Halfway Houses and Community Residences
Medical Records Department Questionnaire
Health Maintenance Organization—National Reporting Requirements
Inventory of Clinical Trials Form
Physician Administrative Cost Survey
Child Support Enforcement Program Under Title IV-D
Complaint Follow-Up Study
Survey of Head Start Handicapped Efforts
Household Panel—Runaway Youth Survey

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Affirmative Fair Housing Marketing Plans
Annual Recap of Characteristics of Families Who Have Applied but Have Not Been Admitted to Low-Rent Public Housing

DEPARTMENT OF THE INTERIOR

Willingness to Pay User Fees for Recreation—Citizen Survey

DEPARTMENT OF JUSTICE

Privacy and Security Certification

DEPARTMENT OF LABOR

Questionnaire for Prime Sponsors and Subagents on Their Use of Tests in Comprehensive Employment Training Act Activities

DEPARTMENT OF TRANSPORTATION

Questionnaire for a Study Cost Effectiveness of Small Highway Sign Supports

ENVIRONMENTAL PROTECTION AGENCY

Estimate of Municipal Wastewater Treatment Facility Requirements
Guidance Package for Evaluation of Laboratories
Interview Guide for Economic Impact Study of Hazardous Waste Regulations on Selected Industries

COMMUNITY SERVICES ADMINISTRATION

Building Winterization Plan

FEDERAL RESERVE BOARD

Quarterly Survey of Terms of Bank Lending

GENERAL SERVICES ADMINISTRATION

Dwelling Unit Inspection Report
Custodial Contractor Work Report

ACTION

Youth Challenge Program Evaluation Study—Followup Forms for Phase II

TENNESSEE VALLEY AUTHORITY

Agribusiness Inventory Survey
Beech River Watershed Land Use Survey

CIVIL SERVICE COMMISSION

Application to Apply Sick Pay Exclusion to Civil Service Benefits

VETERANS ADMINISTRATION

Notice to Female Veterans Under Chapter 34
Request to Receive Bid Invitations

PERSONNEL NOTES

EXECUTIVE OFFICE OF THE PRESIDENT

Office of Management and Budget, Statistical Policy Division: PAUL D. PLANCHON has resigned his position in the Social Statistics Branch and has transferred to the Office of Assistant Secretary for Planning and Evaluation, Department of Health, Education, and Welfare. DANIEL B. TUNSTALL has resigned his position in the Social Statistics Branch to work in the private sector.

DEPARTMENT OF AGRICULTURE

Economic Research Service: REX DALY has been appointed Chairman, Outlook and Situation Board.

Statistical Reporting Service: JACK L. ASCHWEGE has been appointed Statistician-in-Charge of the Nebraska State Statistical Office. FLOYD E. ROLF, Statistician-in-Charge of the Colorado State Statistical Office, is Mr. Aschwege's replacement as Chief, Crops Branch, Estimates Division. L. DUANE JEWELL, currently Head, Livestock Section in the Livestock, Dairy, and Poultry Branch, Estimates Division, has been appointed Statistician-in-Charge of the Colorado State Statistical Office. Mr. Jewell's replacement is WILLIAM DOBBS, previously a statistician in the Data Collection Branch, Survey Division.

FEDERAL RESERVE BOARD

Division of Research and Statistics: JOHN D. PAULUS and STEVEN M. ROBERTS, formerly Economists in the Banking Section, have been promoted to Senior Economists. MICHAEL J. PRELL, formerly an Economist assigned to the Government Finance Section, has been promoted to Senior Economist. D. ROBERT BAILEY, III, formerly a Senior Systems Analyst at Watkins-Johnson Co. has joined the Board's staff as a Systems Analyst in the Statistical Management and Control Section. DENNIS E. FARLEY, a Ph.D. candidate at the University of Pennsylvania has joined the Board's staff as an Economist in the Banking Section.

DEPARTMENT OF COMMERCE

Bureau of the Census: DONALD S. LURIA is designated Chief, Center for Census Use Studies. Mr. Luria was formerly Vice Chairman of the Urban Information Systems Interagency Committee at the Department of Housing and Urban Development. NAMPEO R. MCKENNEY has been appointed Chief, Ethnic and Racial Statistics Staff, Population Division. RICHARD A. ENGELS has been appointed Assistant Division Chief for Estimates and Projections, Population Division. MELVIN A. HENDRY, previously designated as "Acting" is officially designated Assistant Director for Economic Censuses. BOBBIE E. CATLIN has been assigned for 2-year tour of duty as Principal Data Processing Adviser to the National Computer Center, Central Department of Statistics, Riyadh, Saudi Arabia, under the auspices of the U.S.-Saudi Arabian Joint Economic Commission. Mr. Catlin is an employee of the International Statistical Programs Center.

Bureau of Economic Analysis: JOHN E. CREMEANS was appointed Chief Statistician. GEORGE R. GREEN was designated Assistant Chief of the Business Outlook Division. LOUIS J. MOCZAR, formerly of the Federal Reserve Board, has joined BEA as Assistant Chief, Balance of Payments Division. RICHARD C. ZIEMER, formerly of the Bureau of Labor Statistics, has joined the Government Division as Chief, Government Price Measurement Branch and also Project Director for the new military price index project.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

National Center for Education Statistics: MARIE D. ELDRIDGE formerly Director of the Office of Statistics and Analysis, National highway Traffic Safety Administration, Department of Transportation was appointed Administrator of NCES.

SCHEDULE OF RELEASE DATES FOR PRINCIPAL FEDERAL ECONOMIC INDICATORS

February 1976

Release dates scheduled by agencies responsible for the principal economic indicators of the Federal Government are given below. *These are target dates* that will be met in the majority of cases. *Occasionally agencies may be able to release data a day or so earlier or may be forced by unavoidable compilation problems to release a report one or more days later.*

A similar schedule will be shown here each month covering release dates for the following month. The indicators are identified by the title of the releases in which they are included; the source agency; the release identification number where applicable; and the *Business Conditions Digest* series numbers for all BCD series included, shown in parentheses. Release date information for additional series can be found in publications of the sponsoring agencies.

(Any inquiries about these series should be directed to the issuing agency.)

Date	*Subject*	*Data For*
February 2	Construction Expenditures (Press release), Census, C-30 (69)	December
2	Manufacturers' Shipments, Inventories, and Orders, Census, M3-1 (20, 65, 852)	December
4	U.S. Government Security Yields and Prices, Federal Reserve Board (FRB), G.14 (114)	January
4	Open Market Money Rates and Bond Prices (FRB), G.13	January
4	Manufacturers' Export Sales and Orders, Census, M4-A (506)	December
4	Condition Report of Large Commercial Banks, FRB, H.4.2 (72)	Week Ending January 28
5	Money Stock Measures, FRB, H.6 (85, 102, 103)	Week Ending January 28
5	Factors Affecting Bank Reserves and Condition Statement of Federal Reserve Banks, FRB, H.4.1 (93)	Week Ending February 4
5	Consumer Credit, FRB, G.19 (66, 113)	December
6	Monthly Wholesale Trade (Press release), Census, BW	December
6	The Employment Situation, Bureau of Labor Statistics (BLS) (1, 21, 40, 41, 42, 43, 44, 740, 841-848)	January
10	Advance Monthly Retail Sales (Press release), Census (54)	January
11	Condition Report of Large Commercial Banks, FRB, H.4.2 (72)	Week ending February 4
13	Money Stock Measures, FRB, H.6 (85, 102, 103)	Week ending February 4

Date	*Subject*	*Data For*
February 13	Factors Affecting Bank Reserve and Condition Statement of Federal Reserve Banks, FRB, H.4.1 (93)	Week ending February 11
13	Manufacturing and Trade Inventories and Sales, Bureau of Economic Analysis (BEA) (31, 56, 71, 851)	December
13	Wholesale Price Index, BLS (55, 58, 750, 751, 752)	January
13	Yields on FHA Insured New Home 30-Year Mortgages, HUD (118)	February 1
17	Balance of Payments on Official Reserve Transactions, and Net Liquidity Balance, BEA (521, 522)	4 Q '75
17	Industrial Production and Related Data, FRB, G.12.3 (47, 853)	January
18	Housing Starts (Press release), Census, C-20 (28, 29)	January
18	Personal Income, BEA (52, 53)	January
18	Condition Report of Large Commercial Banks, FRB, H.4.2 (72)	Week ending February 11
19	Money Stock Measures, FRB, H.6 (85, 102, 103)	Week Ending February 11
19	Factors Affecting Bank Reserves and Condition Statement of Federal Reserve Banks, FRB, H.4.1 (93)	Week ending February 18
19	Gross National Product (Revised), BEA (200, 205)	4 Q '75
20	Consumer Price Index, BLS (781, 782, 783, 784)	January
20	Real Earnings, BLS (741, 859)	January
23	Advance Report on Durable Goods, Manufacturers' Shipments and Orders (Press release), Census, M3-1 (6, 24, 25, 96, 647, 648)	January
25	Productivity and Costs in Nonfinancial Corporations, BLS	4 Q '75
25	Condition Report of Large Commercial Banks, FRB, H.4.2 (72)	Week Ending February 18
25	Average Yields on Long-Term Bonds, Treasury Bulletin (115, 116)	January
26	Money Stock Measures, FRB, H.6 (85, 102, 103)	Week Ending February 18
26	Factors Affecting Bank Reserves and Condition Statement of Federal Reserve Banks, FRB, H.4.1. (93)	Week Ending February 25
27	Export and Import Merchandise Trade, Census, FT-900 (500, 502, 512)	January
27	Advance Business Conditions Digest, BEA: (12, 33, 69, 813, 817)	December
	(5, 10, 17, 45, 59, 62, 810, 811, 814, 815, 816, 820, 825, 830, 853, 860)	January
27	Labor Turnover in Manufacturing (Press release), BLS (2, 3)	January
27	Agricultural Prices (Agriculture)	Mid-February

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Price 50 cents (single copy). Subscription Price: $6.00 domestic postpaid; $1.50 additional foreign mailing.

AGENCY REPRESENTATIVES FOR DISTRIBUTION AND NEWS ITEMS

		Telephone
Agriculture:	Richard Small Statistical Reporting Service	447–6201
Commerce:	John Wearmouth (distribution only) Office of Publications	967–4233
	Alternate: Tim Coss	967–4233
Census:	Harold Nisselson	763–2462
	Larry Hartke (news items)	763–7454
BEA:	Ago Ambre	523–0777
	Ann Winkler (personnel notes)	523–0890
Defense:	Rose Glubin, OSD Comptroller	OX7–0476
HEW:	Richard Simonson, Office of Sec	245–6230
PHS:	Gooloo Wunderlich, OAS for Health	443–2660
	Louise Kirby, NCHS (news items)	443–1202
	James Baird, Food and Drug	443–6285
OE:	Marjorie Chandler	245–8585
SSA:	John J. Carroll, Asst Comsnr for Research & Statistics (news items)	382–3966
	Robert Robinson, ORS (distribution)	382–3261
HUD:	Douglas C. Brooks	235–1548
	Alternate: Robert E. Ryan	235–1526
IASI:	Cecilia E. Washington	381–8285
Interior:	William L. Kendig (distribution) Office of Management Consulting	343–2195
	Arthur Berger, Bureau of Mines (news items)	343–8511
Labor:	Joan Hall (distribution only) Office of the Secretary	961–2001

		Telephone
Labor:		
BLS:	Henry Lowenstern	961–2327
	Constance McEwen (news items)	523–1660
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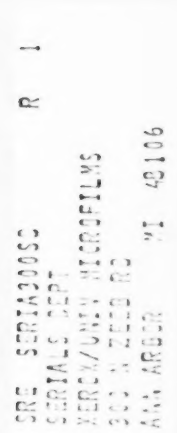

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